Public Health – Seattle and King County

Sexually Transmitted Diseases Epidemiology Report, 2005

Public Health – Seattle and King County
2005 STD Epidemiology Report

Data sources

King County morbidity data:

This report describes case numbers and rates of infection for three sexually transmitted infections in the King County population. These three infections (chlamydial infection, gonorrhea, and syphilis) are notifiable diseases in Washington State. Medical providers and laboratories are required by law to report all laboratory confirmed cases of these infections to Public Health – Seattle & King County (PHSKC). The PHSKC STD Control Program forwards these reports to the Washington State Department of Health. A copy of the case report form is included in Appendix A. For this report, yearly infection totals are based on year of diagnosis, rather than year of report. The numbers contained in the Chlamydial Infection, Gonorrhea, and Syphilis sections of this report are for 1992-2005 cases reported and processed by the Washington State Department of Health through March 22, 2005.

Population data:

Incidence rates were calculated using population estimates provided by the Washington State Office of Financial Management for intercensal years, and U.S. census data for 2000. Population data for the years 2004-2005 are not yet available; for these years, population data from 2003 were utilized.

Population estimates for men who have sex with men (MSM), and well as HIV positive and negative MSM, were provided by the PHSKC HIV/AIDS Epidemiology Unit.

Data limitations: Notifiable disease data are subject to several limitations. In some cases, considerable differences in numbers and rates of infection between subgroups are attributable in large part to screening and testing practices. For example, the rate of chlamydial infection in King County is substantially higher among women than men, reflecting national recommendations that young women be screened for chlamydia annually, and the absence of corresponding recommendations for young men.

While chlamydial infection, gonorrhea, and syphilis are all notifiable diseases in Washington State, these data are subject to underreporting by physicians and laboratories. Additionally, because undiagnosed infections cannot be reported, infections which are frequently experienced with no symptoms, such as chlamydia, may exist at higher levels in the population than notifiable disease data indicate.

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Table of Contents:

Chlamydial Infection

In 2005, 5428 cases of chlamydial infection were reported to Public Health Seattle and King County (PHSKC), for an overall incidence of 310 per 100,000 residents (Table 1). Among women, 3636 cases were reported, for an incidence of 407 per 100,000 women. Among men, the number of cases reported (1884) and incidence of infection (213 per 100,000 men) were much lower, most likely reflecting routine recommended screening for chlamydial infection among young women.

Incidence of chlamydial infection was lowest in white women (252 per 100,000 persons) and Asian and Pacific Islander men (121.0 per 100,000) and white (134 per 100,000) men. Incidence was highest in African American women and men (1615 and 1142 per 100,000 persons, respectively) [Table 2]. Among women, incidence was highest among 15-19 and 20-24 year olds (2481 and 1996 per 100,000 women, respectively), while among men, incidence of chlamydial infection was highest in 20-24 and 25-29 year olds (873 and 628 per 100,000 men) [Table 2].

Overall incidence of chlamydial infection among men and women remained relatively unchanged from 2004 (Table 3). Chlamydia incidence among 15-29 year old King County women in 2005 was also comparable to that observed in 2004 (Table 4, Figure 1). Similarly, incidence of chlamydial infection in 15-29 year old women in Washington State remained stable from 2004 to 2005 (Figure 1). This marks a change from recent years; from 1997 through 2004, a trend of increasing chlamydial incidence had been observed among 15-29 year old women in King County, Washington, and the U.S (national data for 2005 were not available at the time this report was prepared). The dramatic increase in chlamydial incidence seen among U.S. women during this time is likely due in part to increased screening among women in states which did not previously have screening programs. Changes in testing technology may also have influenced trends in incidence. Locally, PHSKC began pilot testing nucleic acid amplification tests (NAATS) for chlamydial infection in 1994; this more sensitive test may have resulted in increases in chlamydia diagnoses in the years following 1994. All PHSKC clinics were using NAATs by the end of 1999. Among 15-29 year old King County men, chlamydia incidence increased slightly from 2004 (609 per 100,000 men) to 2005 (692 per 100,000 men), continuing an overall upward trend in rates over time among men in this age group (Table 4).

The Infertility Prevention Project (IPP) is a national program that provides routine screening and treatment services for chlamydial infection to patients seen in family planning, sexually transmitted disease, and selected other public clinics. All patients meeting selective screening criteria are screened in these clinics, thereby providing an estimate of the prevalence of infection among young women, regardless of symptoms. Figure 2 displays IPP positivity rates (the number of positive chlamydia tests divided by all chlamydia tests performed) among women ages 15-29 for King County and all other Washington counties for 1998-2004. IPP data for 2005 were not available at the time this report was prepared. Chlamydial infection *positivity* has remained stable among King County women from 2002-2004 (Figure 2). The number of tests for chlamydial infection being performed in King County and Washington Stage as a part of the IPP rose by 26% and 24%, respectively, from 2003 to 2004 (Figure 3).

Because reporting is likely more complete among women than among men and morbidity associated with chlamydial infection is concentrated in women, age and race trends for chlamydial infection over time are shown for women only (Figures 4 and 5). Analysis of trends over time in race are also limited to women ages 15-29, the group in which incidence is highest.

Table 1: Number of Reported Cases and Chlamydia Incidence, King County, WA, 2005

		Cases	Incidence per 100,000 population
Sex			
	Women	3636	407
	Men	1884	213
Total cases		5520	310

Table 2: Number of Reported Cases and Chlamydia Incidence in Men and Women, by Age and Race King County, WA, 2005

		Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population
		Women (N=3636)		Men (N=1884)	
Race*†					
	White	1794	252	955	134
	Black	885	1615	659	1142
	Nat Am	89	1010	28	309
	Asian/PI	506	431	132	121
	Other	131		64	
	Multiple	231		48	
	Unknown	831		382	
Age*	0-9 years	1	1	0	0
	10-14 years	79	145	9	16
	15-19 years	1341	2481	317	565
	20-24 years	1257	1996	559	873
	25-29 years	560	843	442	628
	30-34 years	233	318	200	252
	35-44 years	138	94	275	182
	45-55 years	24	17	66	48
	>=56 years	3	2	16	10
	Unknown	14		11	

* Cases with unknown race or age were included in race and age specific rates after being distributed among race/age categories based on the distribution of cases with known race or age. In 2005, among women, 813 case reports were missing race, and 14 missing age, and among men, 382 case reports were missing race, and 11 were missing age.

† Race specific rates exclude cases reported with "multiple" or "other" races.

Table 3: Number of Reported Chlamydia Cases and Incidence among Men and Women King County, WA, 1992-2005

	Women		Men		Total	
Year	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population
1992	3030	379	968	124	3998	253
1993	2566	316	813	102	3379	210
1994	2745	335	811	101	3556	219
1995	2414	292	804	99	3218	196
1996	2359	282	880	107	3239	195
1997	2247	266	905	108	3152	188
1998	2454	287	1073	127	3527	207
1999**	2690	311	1336	156	4026	234
2000	3004	344	1441	167	4445	256
2001	2862	324	1390	159	4252	242
2002	3007	337	1468	166	4475	252
2003	3441	385	1748	197	5189	292
2004	3647	408	1781	201	5428	305
2005	3636	407	1884	213	5520	310

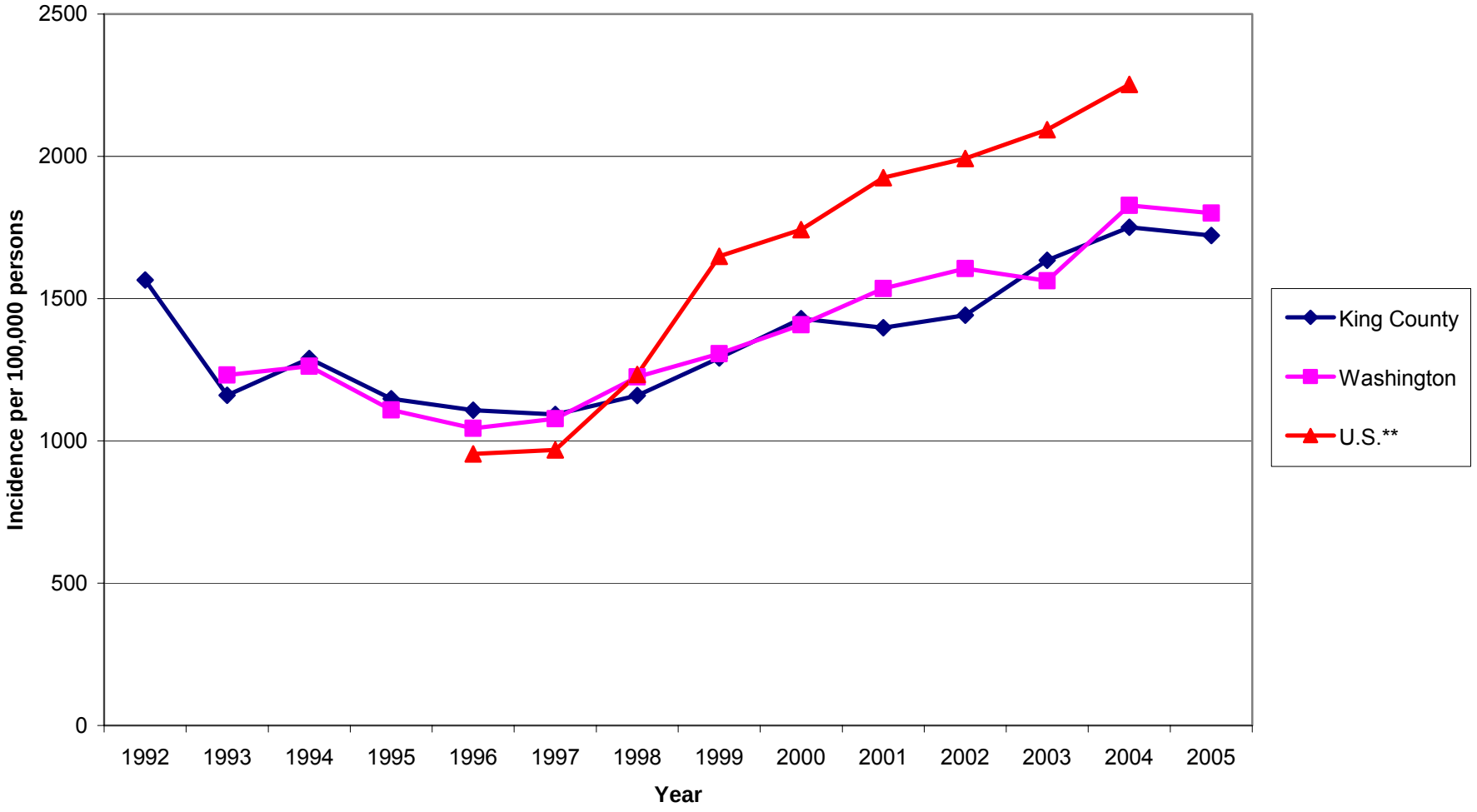
Table 4: Number of Reported Chlamydia Cases and Incidence among Men and Women ages 15-29, King County, WA, 1992-2005

	Women, ages 15-29		Men, ages 15-29		Total, ages 15-29	
Year	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population
1992	2718	1392	804	451	3522	1001
1993	2011	1160	688	386	2699	767
1994	2221	1290	632	355	2853	815
1995	1983	1149	629	351	2612	743
1996	1928	1108	658	364	2586	729
1997	1920	1093	636	348	2556	713
1998	2063	1160	773	417	2836	781
1999**	2306	1291	897	482	3203	879
2000	2569	1430	990	530	3559	971
2001	2528	1397	910	484	3438	932
2002	2630	1441	1026	542	3656	983
2003	2998	1634	1188	624	4186	1119
2004	3212	1747	1162	610	4374	1170
2005	3158	1721	1318	692	4476	1197

* Cases with unknown age were included age specific counts and rates after being distributed among age categories based on the distribution of cases with known age.

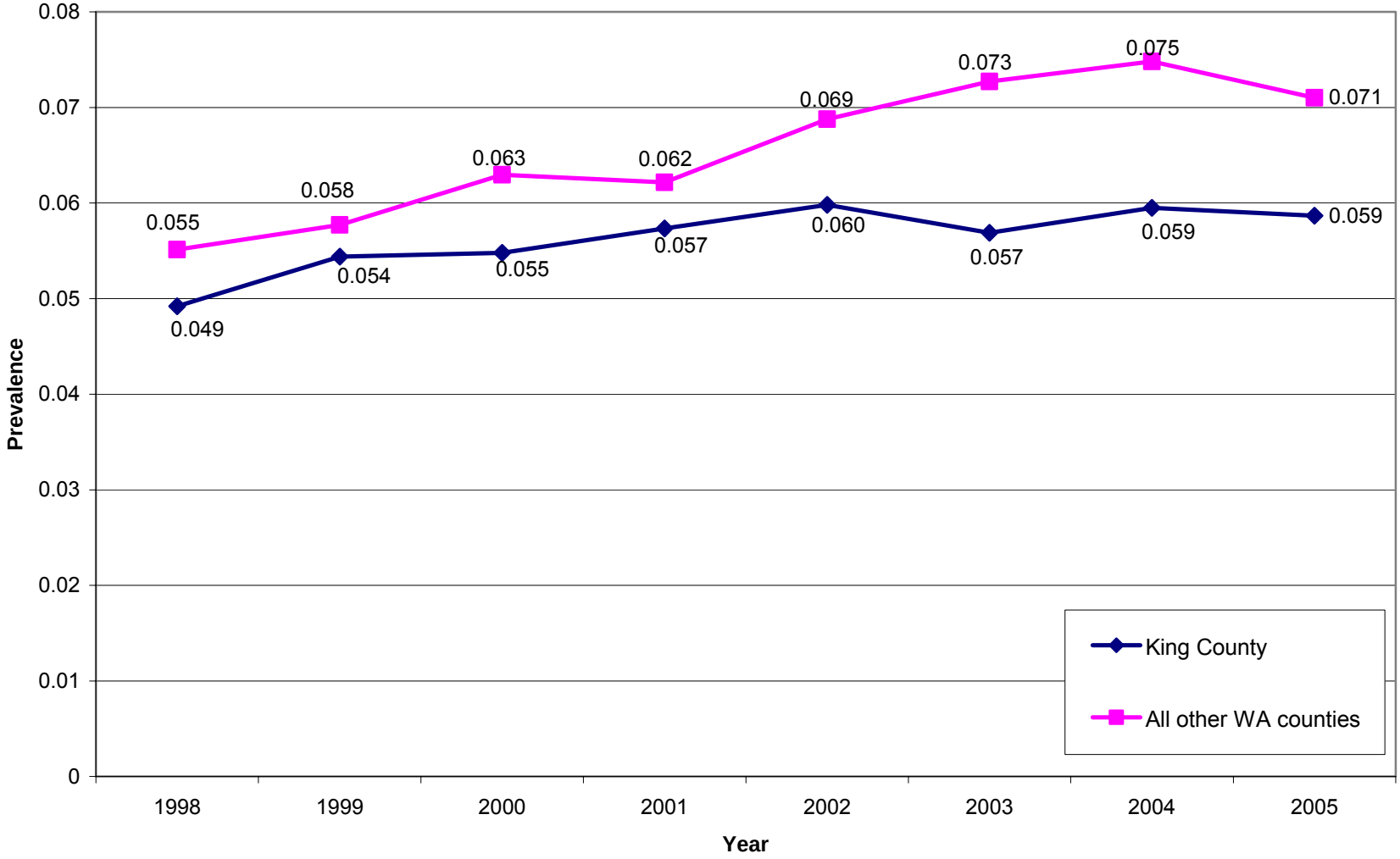
** Some PHSKC clinics began using NAATS testing for chlamydial infection in 1994, and all PHSKC clinics were using NAATs by 1999.

Figure 1: Chlamydia Incidence among Women ages 15-29*, 1992-2005
King County, Washington State, and U.S.



* Cases with unknown age were distributed according to annual age distributions among cases with known age and included in age-specific rates.

Figure 2: Chlamydia Prevalence among Women ages 15-29 in King County and All Other Washington Counties* Infertility Prevention Project, 1998-2005



* County is based on the zip code of the reporting clinic

Figure 3: Chlamydia Laboratory Tests Performed in King County and All Other Washington Counties Through the Infertility Prevention Project, 1998-2005

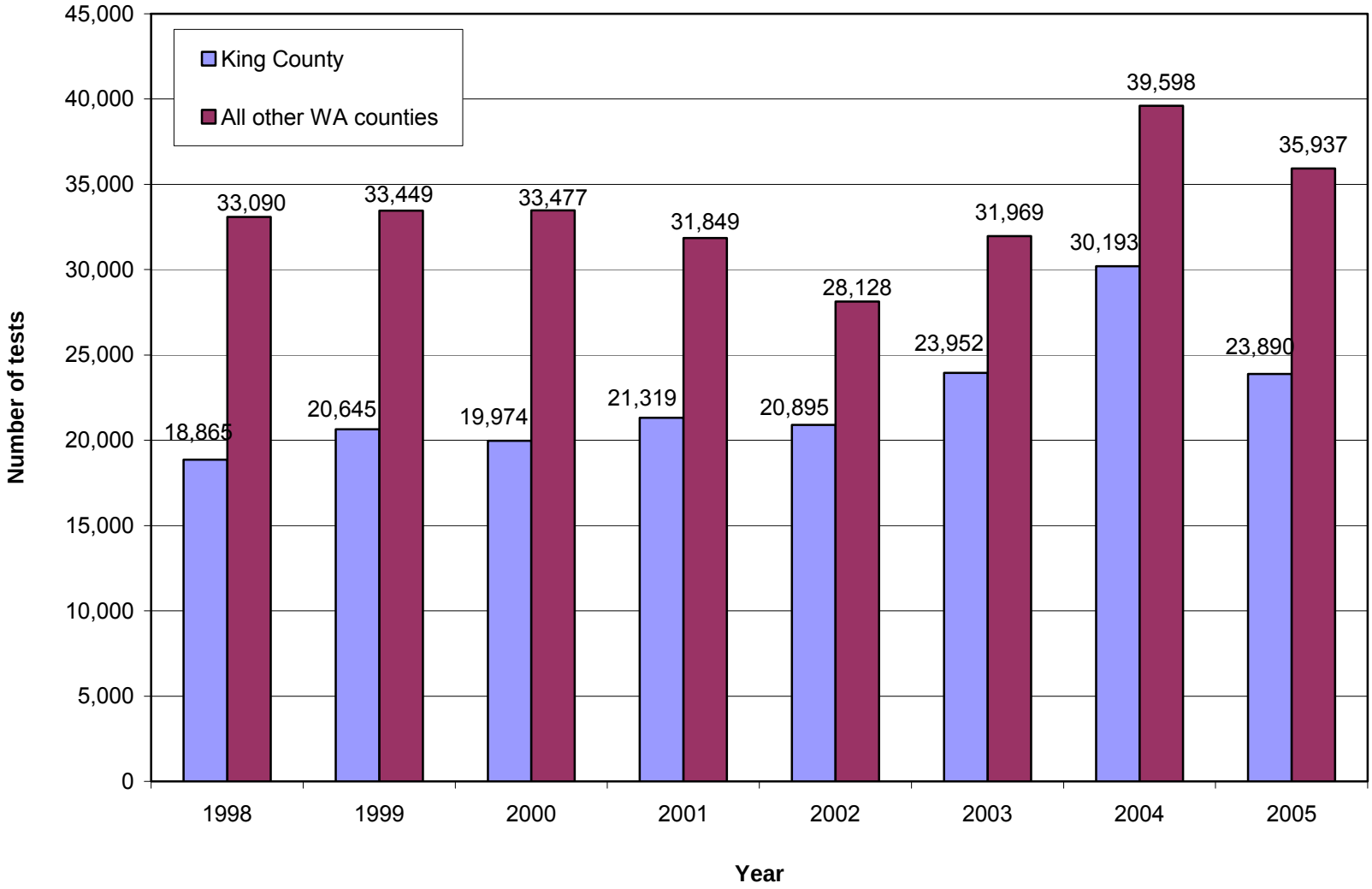
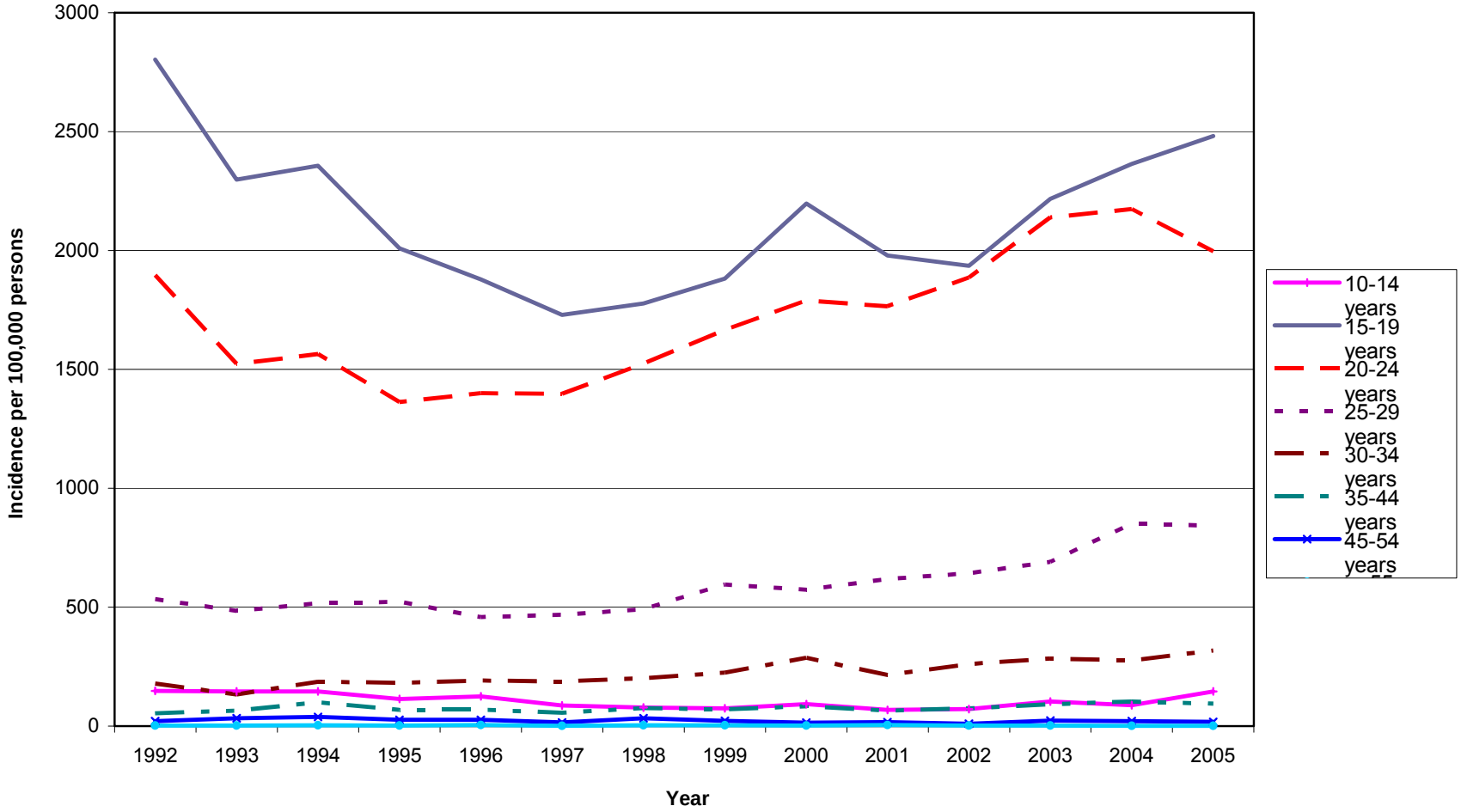
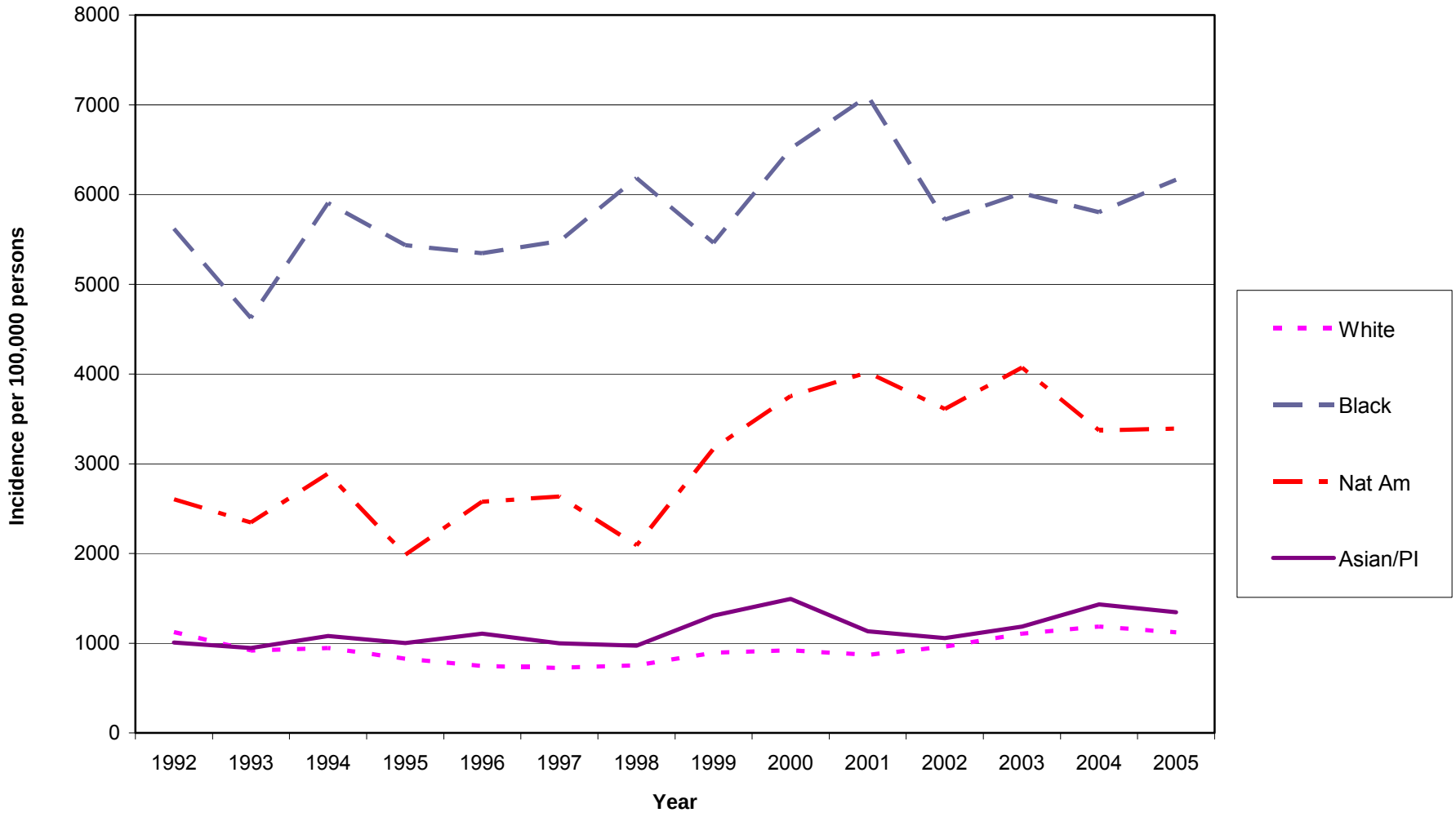


Figure 4: Reported Chlamydial Infection by Age* Among Women
King County, WA, 1992-2005



* Cases with unknown age were distributed according to annual age distributions among cases with known age and included in age-specific rates.

Figure 5: Reported Chlamydial Infection by Race Among Women Ages 15-29*
King County, WA, 1992-2005



* Cases with unknown race and age were distributed according to annual race and age distributions among cases with known race and age and included in age-specific rates.

Gonorrhea

In 2005, 1769 gonorrhea cases were reported to PHSKC, for an overall incidence of 99 per 100,000 King County residents (Table 5). Gonorrhea incidence was higher among men (134 per 100,000 persons) than among women (65 per 100,000 persons), likely reflecting a higher incidence of gonorrhea among men who have sex with men (MSM) than heterosexual men or women (see Figures 13). However, compared to 2004, gonorrhea rates among men and women increased substantially in 2005 (Table 7).

Incidence of gonorrhea was highest in the 15-19 and 20-24 year age groups among women, and the 20-24 and 25-29 year groups among men (Table 6). Large differences in gonorrhea incidence were observed across racial groups in 2005, continuing trends seen in King County for many years (Table 6, Figure 6). Rates of gonorrhea were highest in African American men and women, and lowest in Asian and Pacific Islander men and women. The rate among white women was only slightly greater than that observed among Asian and Pacific Islander women. Gonorrhea incidence in African American women and men was 15 and 17 times higher, respectively, than incidence among Asian and Pacific Islander women and men.

Table 7 displays trends in gonorrhea incidence among men and women over time, and Table 8 displays the same trends, limited to 15-29 year olds. In keeping with the increases in case numbers noted above for the overall population, gonorrhea incidence increased sharply among all men and women, as well as among 15-29 year old men and women (Tables 7, 8). A similar increase in incidence was observed for 15-29 year old Washington women from 2004 to 2005 (Figure 6). Gonorrhea incidence for 15-29 year old women at the national level was not available for 2005 at the time this report was prepared.

Figures 7 and 8 include women only to better illustrate trends in gonorrhea among heterosexuals. Since the early 1990s, gonorrhea incidence in women has been highest among 15-29 and 20-24 year olds, and in 2005, sharp increases in incidence were observed in both these groups (Figure 7). Among 15-29 year old women, gonorrhea incidence has historically been highest among African Americans, followed by Native Americans, and whites and Asian/Pacific Islanders (Figure 8). While gonorrhea incidence remained relatively stable among white, Native American, and Asian and Pacific Islander women in this age group in 2005, gonorrhea incidence increased among 15-29 year old African American women.

Table 5: Number of Reported Gonorrhea Cases and Gonorrhea Incidence, King County, WA, 2005

		Cases	Incidence per 100,000 population
Sex			
	Women	581	65
	Men	1188	134
Total cases		1769	99

Table 6: Number of Reported Gonorrhea Cases and Incidence, in Men and Women, by Age and Race, King County, WA, 2005

		Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population
		Women (N=581)		Men (N=1188)	
Race*†					
	White	215	24	682	96
	Black	276	296	405	702
	Nat Am	17	240	8	92
	Asian/PI	27	20	46	42
	Other	13		28	
	Multiple	32		19	
	Unknown	93		179	
Age*	0-9 years	0	0	0	0
	10-14 years	16	29	0	0
	15-19 years	212	392	91	163
	20-24 years	177	281	222	347
	25-29 years	68	102	201	286
	30-34 years	54	74	175	220
	35-44 years	40	28	345	228
	45-55 years	14	10	133	96
	>=56 years	0	0	21	13
	Unknown	2		6	

* Cases with unknown race or age were included in race and age specific rates after being distributed among race/age categories based on the distribution of cases with known race or age. In 2005, among women, 93 case reports were missing race, and 2 missing age, and among men, 179 cases reports were missing race, and 6 were missing age.

†Race specific rates exclude cases reported with "multiple" or "other" races.

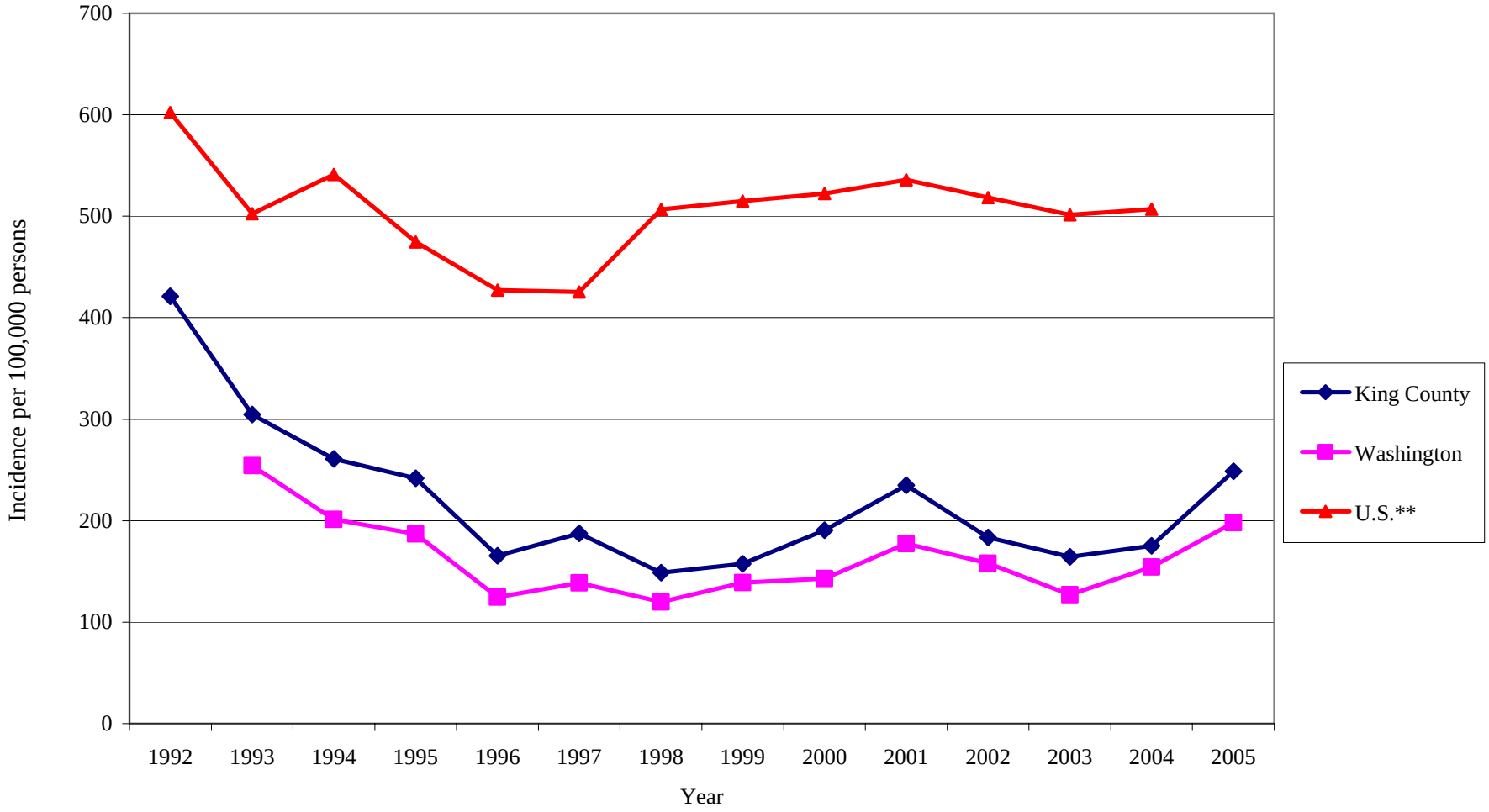
Table 7: Number of Reported Gonorrhea Cases and Incidence among Men and Women King County, WA, 1992-2005

	Women		Men		Total	
Year	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population
1992	903	113.0	1052	134.8	1955	123.8
1993	648	79.8	879	110.6	1527	95.1
1994	541	66.0	675	83.9	1216	74.9
1995	517	62.4	763	93.7	1280	77.9
1996	354	42.4	559	67.9	913	55.0
1997	396	46.9	519	62.2	915	54.5
1998	324	37.9	656	77.5	980	57.6
1999	342	39.6	605	70.7	947	55.1
2000	452	51.8	775	89.7	1227	70.6
2001	564	63.9	984	112.4	1548	88.0
2002	428	48.0	1025	116.1	1453	81.9
2003	403	45.1	946	106.8	1349	75.8
2004	414	46.3	872	98.5	1286	72.3
2005	581	65.0	1188	134.0	1769	99.0

Table 8: Number of Reported Gonorrhea Cases and Incidence Among Men and Women ages 15-29,* King County, WA, 1992-2005

	Women, ages 15-29		Men, ages 15-29		Total, ages 15-29	
Year	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population
1992	731	421.1	691	387.8	1422	404.2
1993	528	304.7	510	285.7	1038	295.0
1994	449	260.8	407	228.9	856	244.6
1995	417	241.7	410	229.5	828	235.5
1996	288	165.5	291	161.2	579	163.3
1997	329	187.3	243	132.9	572	159.6
1998	264	148.6	318	172.0	583	160.6
1999	281	157.5	297	159.5	578	158.6
2000	343	190.7	304	162.6	647	176.4
2001	425	234.9	422	224.6	847	229.7
2002	335	183.6	442	233.5	777	209.0
2003	301	164.3	368	193.2	669	179.0
2004	322	175.4	337	176.8	659	176.1
2005	456	248.7	515	270.2	971	259.7

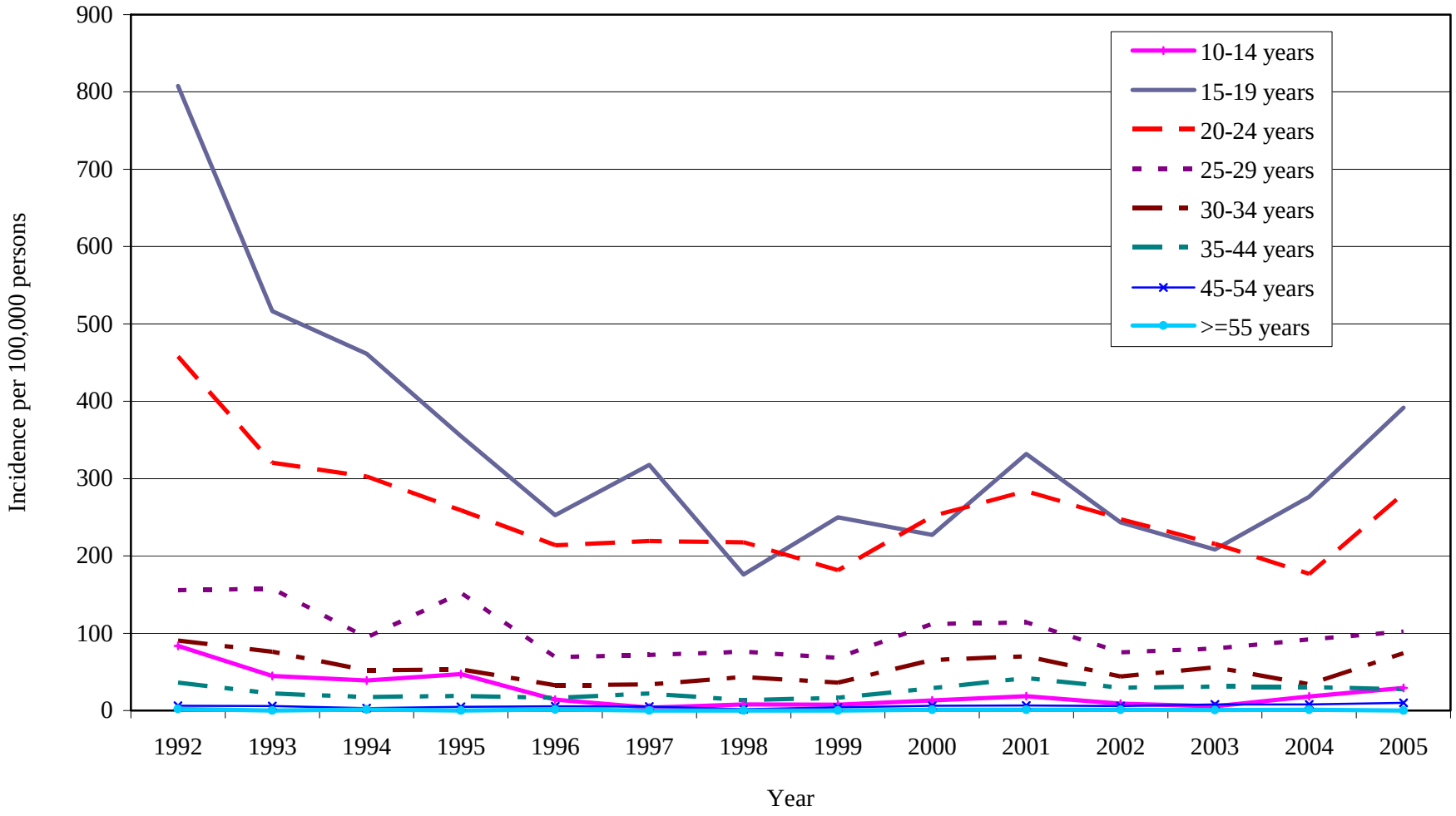
Figure 6: Gonorrhea Incidence among Women ages 15-29*, 1992-2005
King County, Washington State, and U.S.



* Cases with unknown age were distributed according to annual age distributions among cases with known age and included in age-specific rates.

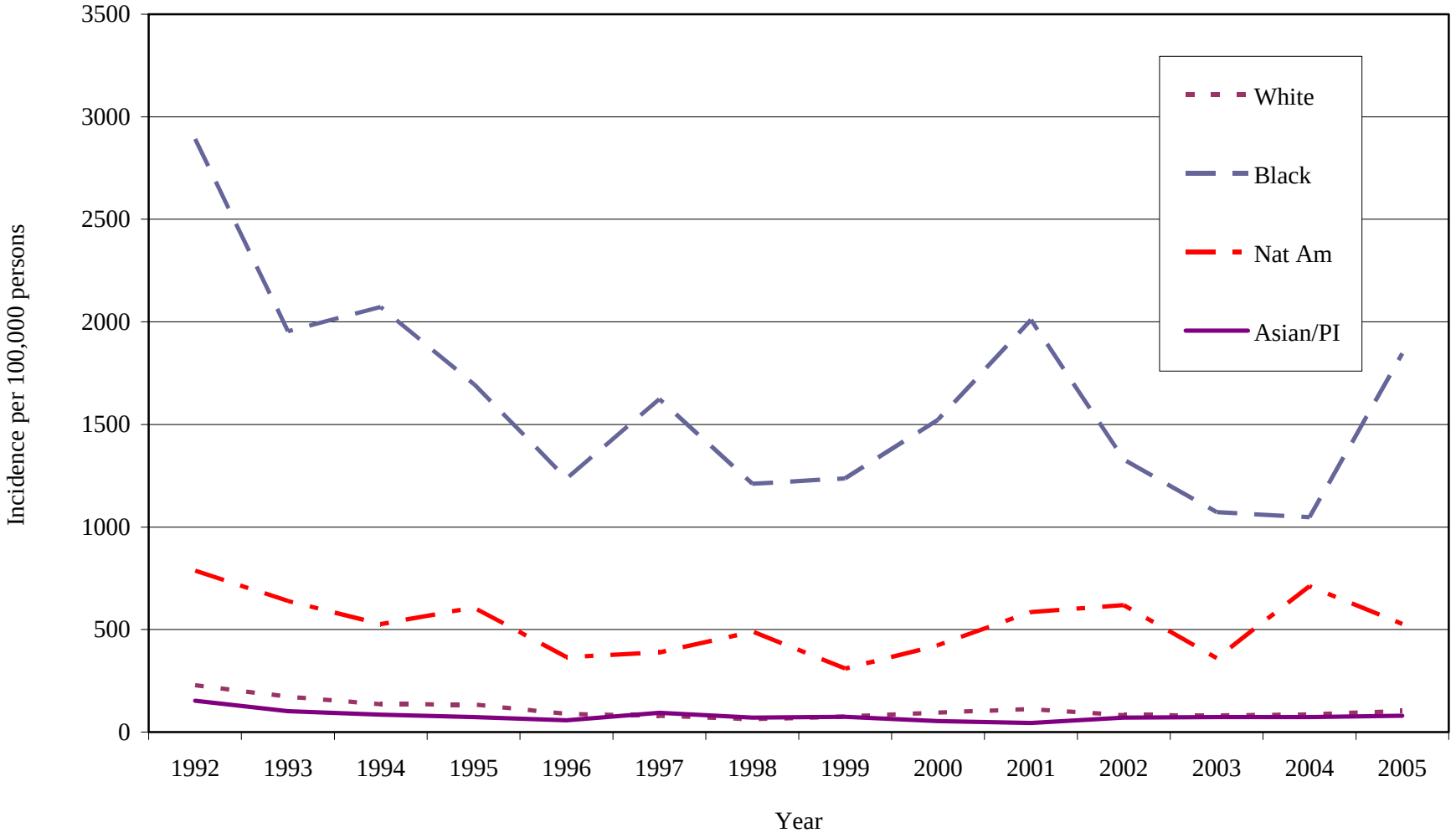
** National data for 2005 were not available at the time this report was prepared.

Figure 7: Gonorrhea Incidence by Age* Among Women
King County, WA, 1992-2005



* Cases with unknown age were distributed according to annual age distributions among cases with known age and included in age-specific rates.

Figure 8: Gonorrhea Incidence by Race Among Women Ages 15-29*
King County, WA, 1992-2005



* Cases with unknown race and age were distributed according to annual race and age distributions among cases with known race and age and included in race-specific rates.

Syphilis

Providers reported 188 early (primary, secondary, and early latent) syphilis cases in King County residents in 2005, and the crude incidence of early syphilis was 11 per 100,000 persons (Table 9). Early syphilis is concentrated in the MSM population in King County, and the number of cases and incidence among MSM in 2005 continued an ongoing upward trend (Table 12, Figure 9). In contrast, an outbreak of early syphilis among heterosexuals in 2004 waned in 2005 (Figure 9).

Following a period of very low syphilis rates among King County MSM in the late 1980s and early 1990s, syphilis rates among MSM began increasing in 1998, briefly plateaued between 1999-2002, and have steadily increased since, with an estimated rate of 403 cases per 100,000 MSM in 2005 [Table 12]. Syphilis has disproportionately affected HIV positive MSM since the early years of the epidemic, when rates among HIV positive MSM were typically over twenty times greater than among HIV negative MSM (Figure 10). However, since 2002, rates among HIV negative MSM have climbed quickly, somewhat reducing this disparity. In 2005, estimated syphilis rates among HIV positive MSM were ten times higher than among HIV negative MSM, though 44% of all early syphilis cases occurred in MSM who were HIV negative (Figure 11).

In 2005, early syphilis incidence among heterosexuals was low when compared to that among MSM, and as noted above, decreased 50% from 2004. Among heterosexual men, incidence dropped from 2.58 per 100,000 men in 2004 to 1 per 100,000 in 2005. Among women, this decline in incidence was less marked, with 7 reported cases among women in 2005 compared to 8 cases in 2004 (Table 11).

Characteristics and behaviors reported by MSM and heterosexual syphilis cases in 2005 varied widely (Table 10). Half of MSM syphilis cases were HIV positive, while none of the heterosexual cases were HIV positive. MSM more often reported having anonymous sex partners and using the internet to recruit sex partners when compared to heterosexuals. Over 25% of MSM reported attending bathhouses. Heterosexuals were more likely to report trading sex for money, drugs or other items (14% of women), or having sex with a known sex worker (17% of heterosexual men), than were MSM (2%). Heterosexuals were also more likely to report use of a variety of drugs (67% of men, 57% of women) than were MSM (37%).

Table 9: Reported Cases and Incidence of Early Syphilis
King County, WA, 2005

		Cases	Percent	Incidence per 100,000 population
Sex				
	Men	181	95.2	20
	Women	7	4.8	1
Total cases		188		11

Table 10: HIV Status and Risk Behaviors among Syphilis Cases
By Gender and Sexual Orientation, King County, WA, 2005

		MSM* N=174		Heterosexual Men N=6		Heterosexual Women N=7	
		Number	Percent	Number	Percent	Number	Percent
Stage	Primary	44	25%	1	17%	1	14%
	Secondary	80	46%	4	67%	3	43%
	Early latent	50	29%	1	17%	3	43%
HIV	Positive	87	50%	0	0%	0	0%
	Negative	77	44%	2	33%	5	71%
	Unknown	10	6%	4	67%	2	29%
Drug Use							
	Yes	64	37%	4	67%	4	57%
	No	83	48%	1	17%	2	29%
	Unknown	27	16%	1	17%	1	14%
Anonymous sex partners during infectious period							
	Yes	76	44%	3	50%	1	14%
	No	42	24%	0	0%	2	29%
	Unknown	56	32%	3	50%	4	57%
Patient uses bathhouses							
	Yes	50	29%	0	0%	0	0%
	No	116	67%	5	83%	7	100%
	Unknown	8	5%	1	17%	0	0%
Internet use to meet partners							
	Yes	66	38%	1	17%	0	0%
	No	99	57%	4	67%	4	57%
	Unknown	9	5%	1	17%	3	43%
Has traded sex for money or drugs (sex worker)							
	Yes	3	2%	0	0%	1	14%
	No	142	82%	3	50%	5	71%
	Unknown	29	17%	3	50%	1	14%
Sex with a known sex worker							
	Yes	3	2%	1	17%	0	0%
	No	143	82%	2	33%	6	86%
	Unknown	28	16%	3	50%	1	14%
Reason for Visit							
	Routine exam	43	25%	0	0%	1	14%
	Symptoms	107	61%	5	83%	3	43%
	Exposed	21	12%	1	17%	3	43%
	None	3	2%	0	0%	0	0%

*MSM: all men who acknowledged sex with a man. 1 man with unknown MSM status was excluded.

Table 11: Number of Reported Early Syphilis Cases and Incidence among Men and Women King County, WA, 1992-2005

	Women		Men		Total	
Year	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population	Cases	Incidence per 100,000 population
1992	26	3	42	5	68	4
1993	21	3	15	2	36	2
1994	6	1	12	1	18	1
1995	1	0	4	0	5	0
1996	0	0	2	0	2	0
1997	10	1	10	1	20	1
1998	1	0	37	4	38	2
1999	3	0	67	8	70	4
2000	4	0	67	8	71	4
2001	1	0	51	6	52	3
2002	0	0	64	7	64	4
2003	2	0	80	9	82	5
2004	7	1	159	18	166	9
2005	7	1	181	20	188	11

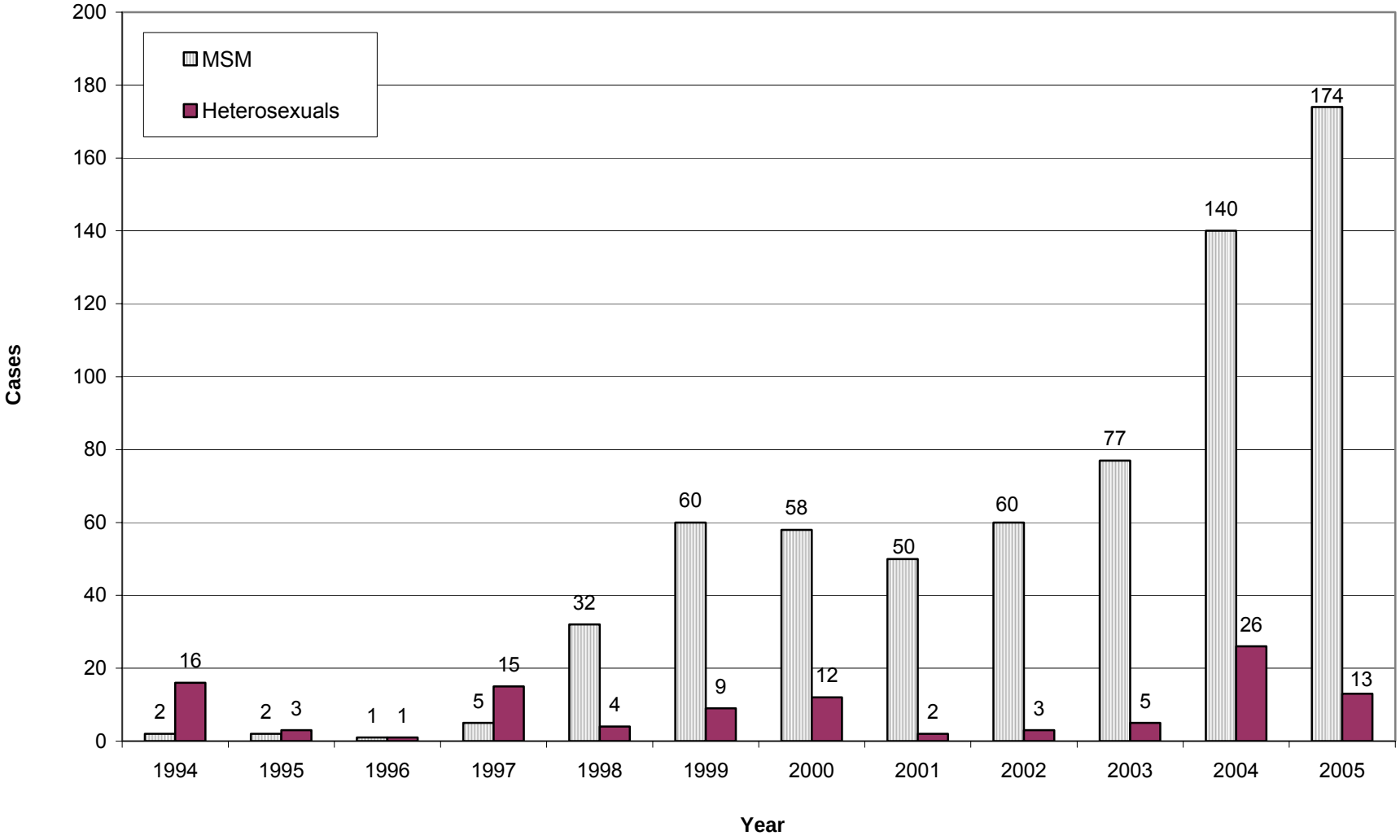
Table 12: Number of Reported Early Syphilis Cases and Incidence Among MSM and Heterosexual Men, King County, WA, 1992-2005

	MSM		Heterosexual Men	
Year	Cases	Incidence per 100,000 population**	Cases	Incidence per 100,000 population
1992*	0	0	0	0.0
1993*	1	2	5	0.7
1994	2	5	10	1.4
1995	2	5	2	0.3
1996	1	2	1	0.1
1997	5	12	5	0.7
1998*	32	74	3	0.4
1999*	60	139	6	0.8
2000*	58	134	8	1.1
2001	50	116	1	0.1
2002*	60	139	3	0.4
2003	77	178	3	0.4
2004	140	324	19	2.6
2005	174	403	6	0.8

* Men were missing sexual orientation data in the following years (numbers missing are included in parantheses): 1992 (42), 1993 (9), 1998 (2), 1999 (1), 2000 (1), and 2002 (1), 2005(1)

** MSM incidence is bases on an MSM population size estimate of 43,150

Figure 9: Reported Cases of Early Syphilis by Sexual Orientation*, King County, WA, 2005



*Data on sexual orientation were missing for men in the following years: 2 men in 1998, and 1 man in 1999, 2000, 2002 and 2005.

Figure 10: Early Syphilis Incidence Among MSM by HIV Status
King County, WA, 1997-2005

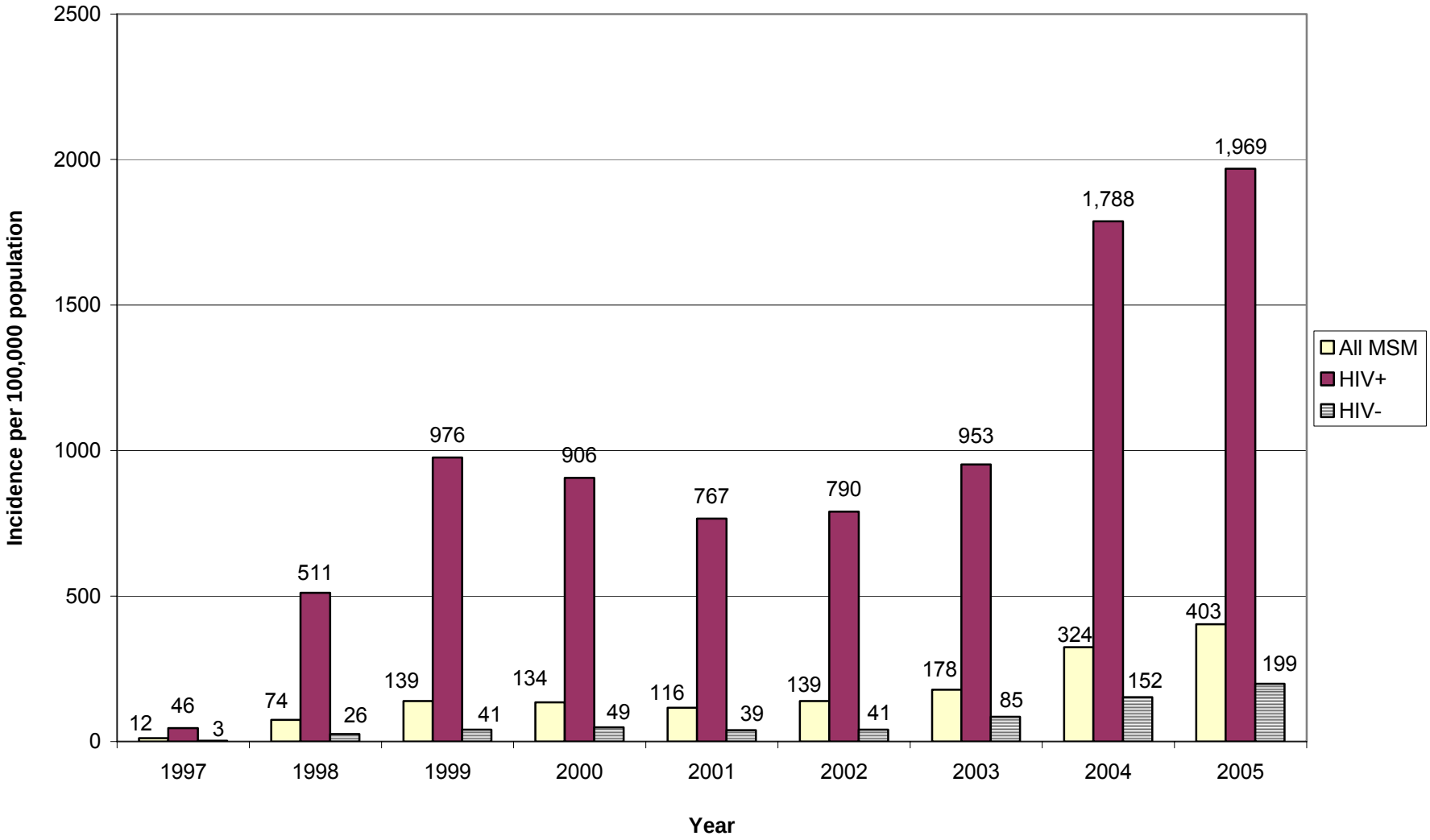
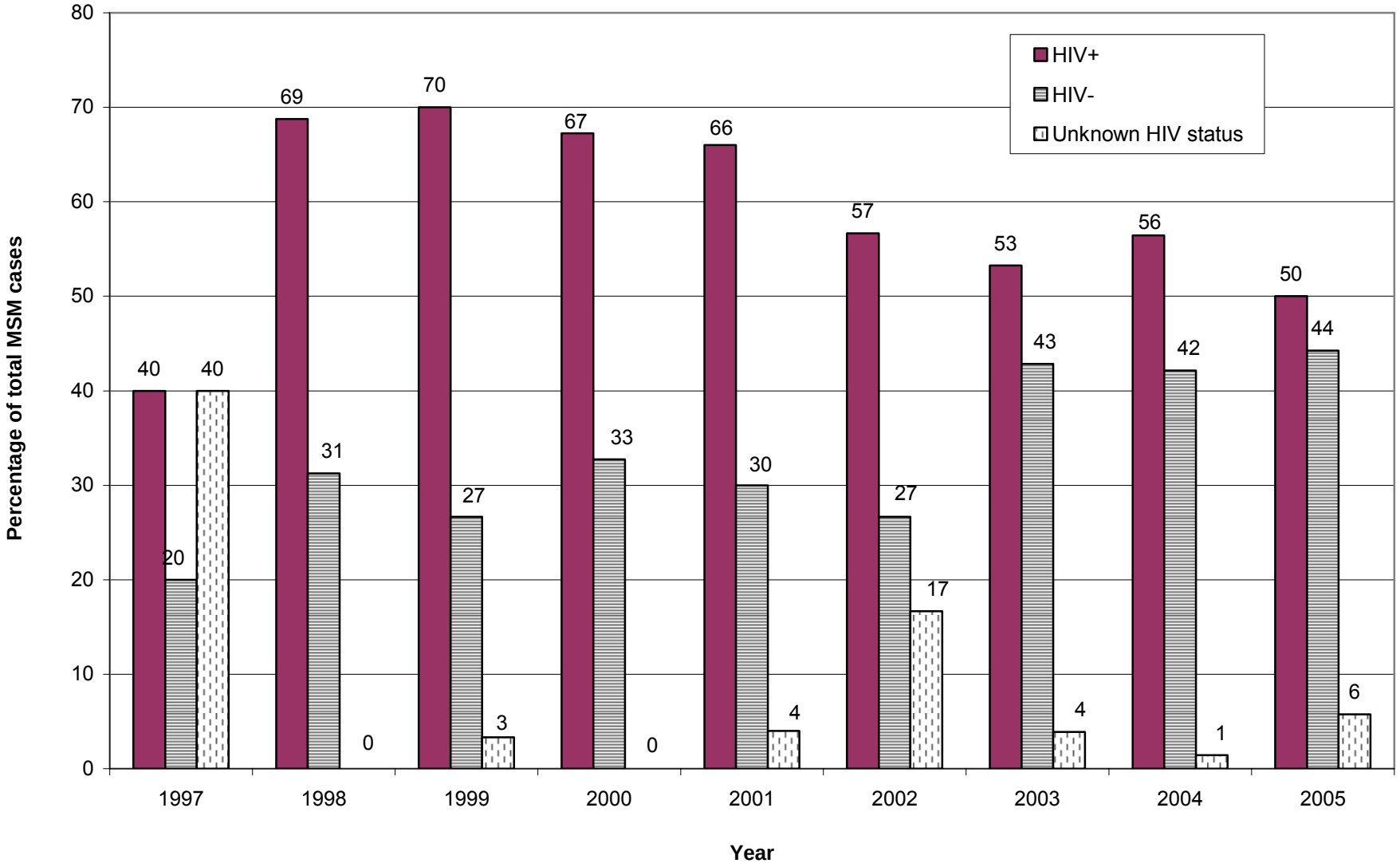


Figure 11: Percent of Reported Early Syphilis Cases Among MSM by HIV Status
King County, WA, 1997-2005

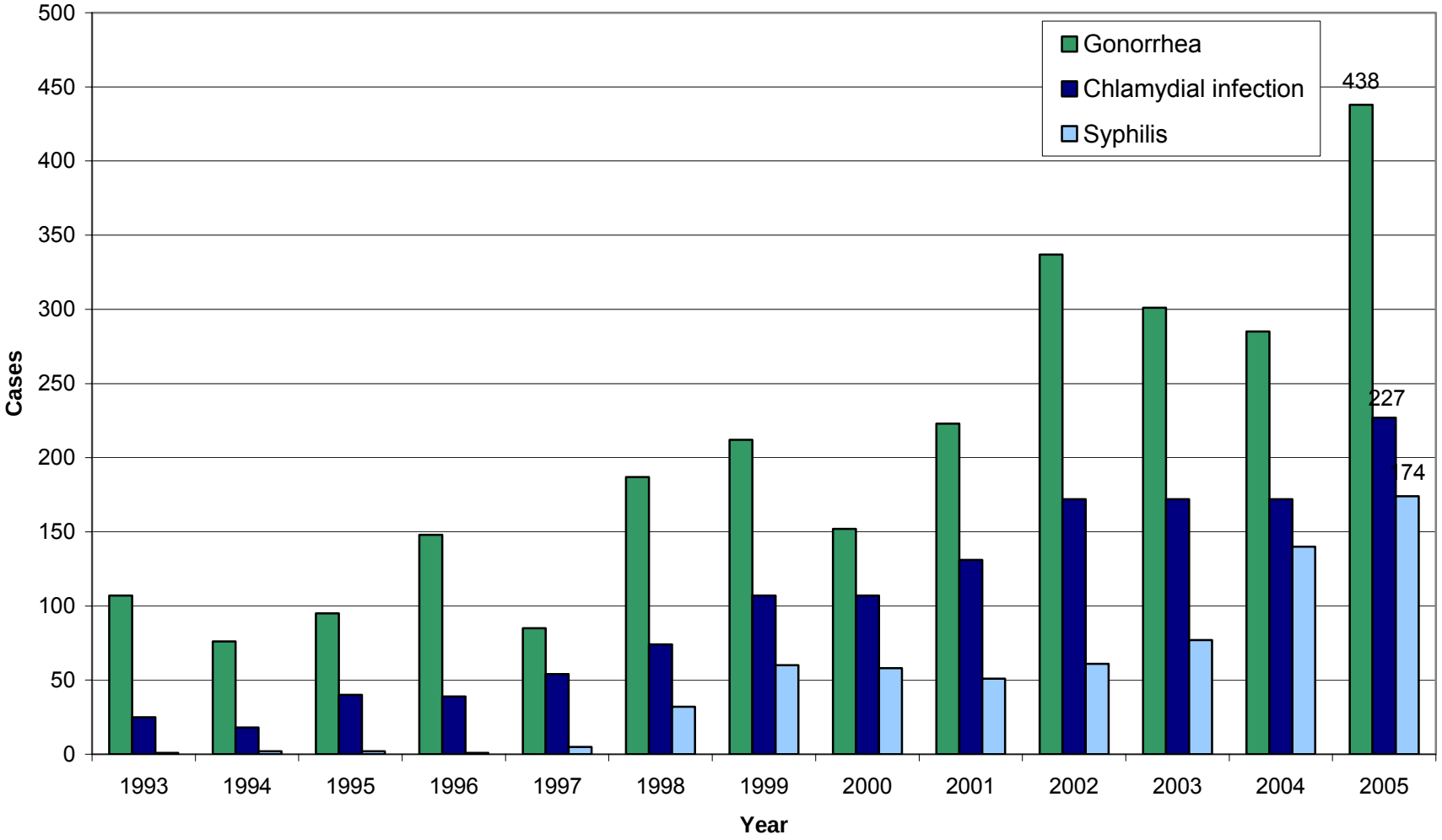


Men Who Have Sex with Men (MSM)

Data on sexual orientation were not routinely collected as part of STD case reports before 2004, and in 2005, these data were not reported for approximately half of male cases of gonorrhea and chlamydial infection. Here, we estimate the number of King County MSM diagnosed with gonorrhea or chlamydial infection by adding the numbers of each infection diagnosed among PHSKC STD Clinic MSM patients to the number of rectal gonorrhea and chlamydia infections reported by non-PHSKC STD Clinic providers. These estimates are an underestimate of MSM cases for these two infections, as they exclude non-rectal infections among MSM diagnosed by non-PSHKC STD Clinic providers. However, such estimates do provide information about trends in gonorrhea and chlamydia over time among MSM.

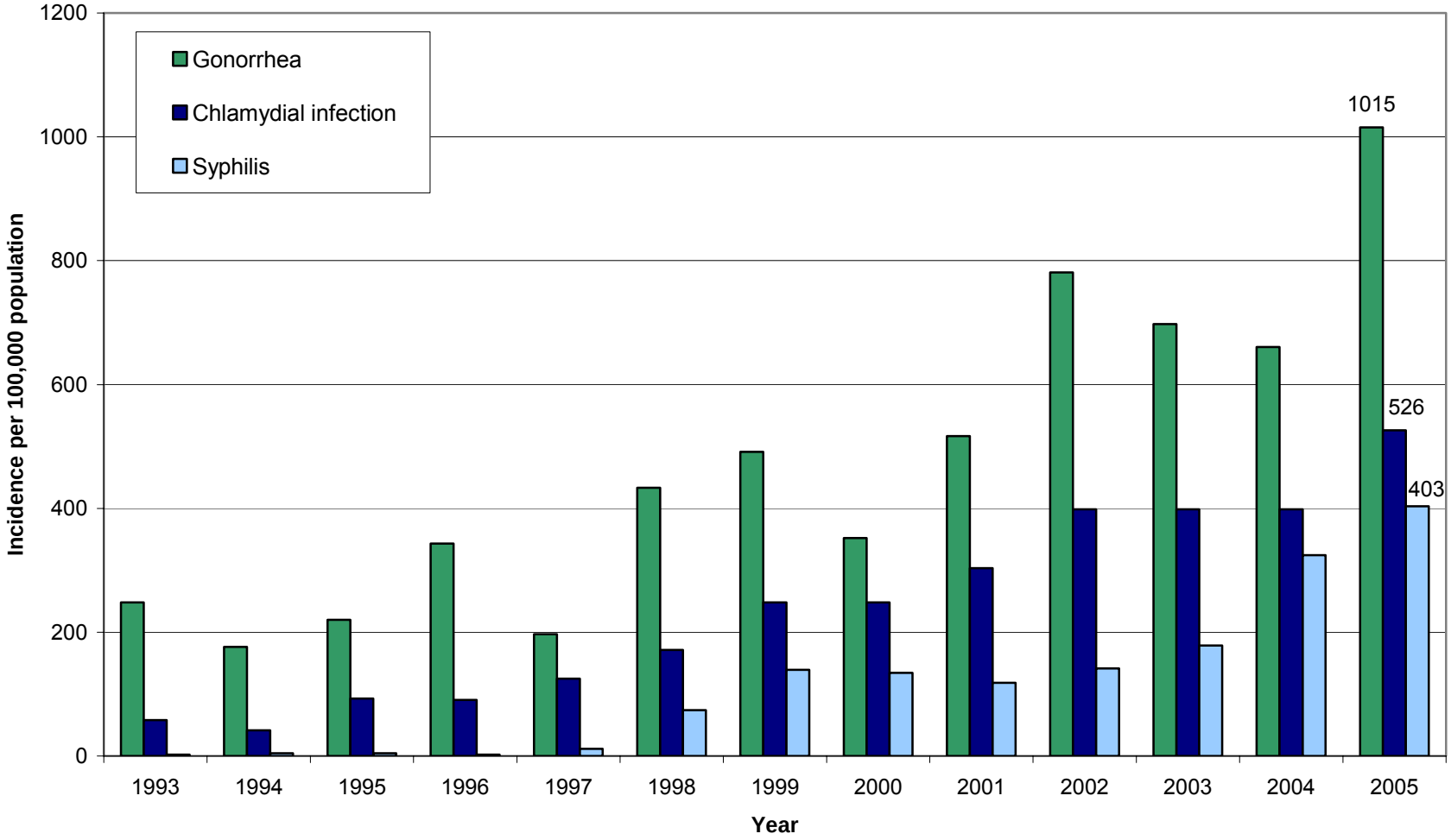
The numbers of gonorrhea, chlamydia, and early syphilis cases diagnosed among King County MSM have increased substantially since 1993 (Figure 12). While chlamydial infections have been increasing steadily among MSM, increases in gonorrhea have been less consistent, and gonorrhea diagnoses stabilized from 2002 to 2004. In 2005, gonorrhea cases among MSM rose to 438 from 285 in 2004. An epidemic of early syphilis among MSM began in 1998. This epidemic continued unabated in 2005, with the number of MSM early syphilis cases increasing from 140 in 2004 to 174 in 2005 (Figure 12). These increases in the numbers of cases of gonorrhea, chlamydial infection, and early syphilis among MSM are reflected in increasing incidence of these three infections from 1993 to 2005 (Figure 13). Monitoring symptomatic urethral gonorrhea among MSM provides a means of examining changes in gonorrhea unaffected by changing screening practices over time. In the PHSKC STD Clinic, symptomatic urethral gonorrhea among MSM has increased more than fourfold since the mid-1990s (Figure 14).

Figure 11: Gonorrhea*, Chlamydia*, and Early Syphilis among MSM
King County, WA, 1993-2005



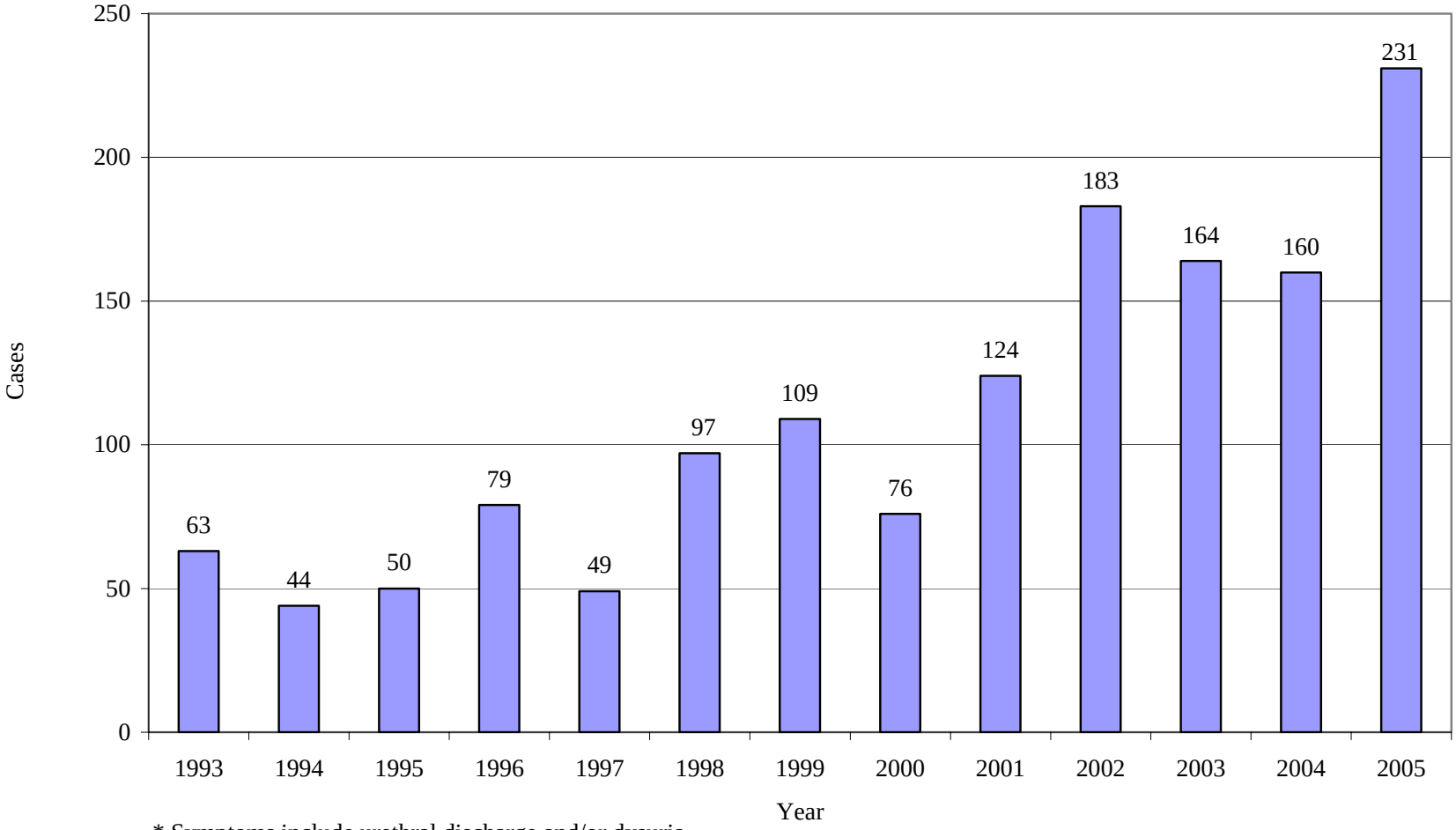
*MSM cases are calculated by summing all PHSKC STD Clinic diagnoses among MSM with all rectal infections reported to PHSKC by other providers.

Figure 13: Incidence of Gonorrhea*, Chlamydial Infection*, and Early Syphilis Among MSM King County, WA 1993-2005



*MSM cases are calculated by summing all PHSKC STD Clinic diagnoses among MSM with all rectal infections reported to PHSKC by other providers.

Figure 14: Symptomatic* Gonococcal Urethritis among MSM**
PHSKC STD Clinic, 1993-2005



* Symptoms include urethral discharge and/or dysuria

** These data exclude 49 cases of symptomatic urethral gonorrhea among men who were missing sexual orientation